

CLAIMS

What is claimed is:

1. A toner comprising:
toner particles containing a binder resin and a colorant; and
a first external additive including large silica particles in an amount of 0.1 to 3.0 wt% relative to the toner particles and having an average particle size of 20 to 200 nm;
a second external additive including small silica particles in an amount of 0.1 to 3.0 wt% relative to the toner particles and having an average particle size of 5 to 20 nm;
a third external additive including 0.1 to 2.0 wt% of hydrophobic titanium dioxide microparticles relative to the weight of the toner particles, with a resistance of 10^5 to 10^{12} Ω cm; and
a fourth external additive including at least one of 0.1 to 2.0 wt% of conductive titanium dioxide particles relative to the weight of the toner particles with a resistance of 1 to 10^5 Ω cm, and 0.1 to 2.0 wt% of positively chargeable aluminum oxide particles, relative to the weight of the toner particles.
2. The toner of claim 1, wherein the hydrophobic titanium dioxide microparticles have a resistance of 10^7 to 10^{10} Ω cm inclusive.
3. The toner of claim 1, wherein the hydrophobic titanium dioxide microparticles have an average particle size of 10 to 50 nm inclusive.
4. The toner of claim 1, wherein the hydrophobic titanium dioxide microparticles have an average particle size of 15 to 40 nm inclusive.
5. The toner of claim 1, wherein the conductive titanium dioxide particles have a resistance of 1 to 10^4 Ω cm inclusive.
6. The toner of claim 1, wherein the conductive titanium dioxide particles have an average particle size of 30 to 500 nm inclusive.
7. The toner of claim 1, wherein the conductive titanium dioxide particles have an

average particle size of 40 to 300 nm inclusive.

8. The toner of claim 1, wherein the positively chargeable aluminum oxide particles have a charge amount of +100 to +300 μ C/g.

9. The toner of claim 1, wherein the positively chargeable aluminum oxide particles have an average particle size of 0.1 to 3 μ m.

10. The toner of claim 1, wherein the positively chargeable aluminum oxide particles have an average particle size of 0.1 to 2.0 μ m.

11. The toner of claim 1, wherein a weight ratio of the large silica particles to the small silica particles is in a range of 1:1 to 3:1.

12. The toner of claim 11, wherein a weight ratio of the large silica particles to the small silica particles is in a range of 1.5:1 to 2.5:1.

13. The toner of claim 1, wherein the binder resin has an acid number of 3 to 12 mgKOH/g.

14. The toner of claim 1, wherein the toner is a non-magnetic one-component toner.

15. A toner comprising:
toner particles containing a binder resin and a colorant; and
a first external additive including large silica particles in an amount of 0.1 to 3.0 wt% relative to the toner particles and having an average particle size of 20 to 200 nm;
a second external additive including large silica particles in an amount of 0.1 to 3.0 wt% relative to the toner particles and having an average particle size of 5 to 20 nm;
a third external additive including hydrophobic titanium dioxide microparticles; and
a fourth external additive including at least one of conductive titanium dioxide particles and positively chargeable aluminum oxide particles.